CHAPTER 9.0

CUMULATIVE AND GROWTH-INDUCING EFFECTS AND OTHER REQUIRED DISCLOSURES

9.1 Introduction

This chapter provides a summary of cumulative and growth-inducing effects as well as a listing of other required disclosures and related Federal, State, and local plans and policies associated with the environmental review process.

Cumulative effects are those that produce a change in the environment that results from the incremental effect of a project when added to other closely related past, present, or reasonably foreseeable, probable future projects. A project can be considered to have a growth-inducing effect if it directly or indirectly fosters economic or population growth or removes obstacles to population growth. An analysis of cumulative and growth-inducing effects is provided below in Sections 9.2 and 9.3.

Before project authorization, other Federal, State, and local agencies will use this study to fulfill specific review and consultation requirements. A summary of these requirements and other permit and consultation requirements is provided below in Sections 9.4 and 9.5.

9.2 Cumulative Effects

The American River Watershed Project, Long-Term Study, is evaluating two courses of action to improve flood protection in the Sacramento Metropolitan Area for major storm events:

- Raising Folsom Dam and surrounding dikes to increase temporary flood storage
- Increasing flood channel capacity and reliability downstream to safely convey higher flows that would have to be released from Folsom Dam

In addition, one alternative combines both courses of action.

Council on Environmental Quality (CEQ) regulations and the State of California Environmental Quality Act (CEQA) Guidelines require that cumulative impacts of a proposed project be addressed when the cumulative impacts are expected to be significant (40 CFR 1508.25[a][2], 14 CCR 1530[a]). Cumulative impacts are impacts on the environment that result from the incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions. Such impacts can result from individually minor but collectively significant actions taking place over time.

The Folsom Dam Modification and Stepped Release Plans would not significantly increase the cumulative effects on Central Valley Project (CVP) and State Water Project (SWP) operations. Other cumulative effects of major concern are related to the potential losses of riparian and wetland resources throughout the local region because of other flood control

projects that are planned or under way to repair and upgrade the Sacramento River Flood Control Project or address other local or regional flooding problems.

Cumulatively, the various flood control projects will have the beneficial effects of increasing the flood protection provided to lands in the local Sacramento Valley region, thereby reducing the risk of adverse effects related to flooding. At the same time, however, these projects could reduce the small remaining wetland and riparian ecosystems along the rivers and streams where construction would take place. These effects generally are mitigated at the project level, resulting in no net loss of riparian and wetland values but may cause temporary losses and probable changes in the specific types, quantities, and locations of these habitats.

The project-specific effects of the alternatives were examined to assess potential cumulative effects. Only those effects that were identified as permanent effects and that have the potential to be additive to the effects of other projects in the region are discussed below. The analysis therefore focuses on the following resource categories:

- Vegetation
- Wildlife
- Fisheries
- Hydrology

Effects on the following resource categories were found not to have the potential to contribute to cumulative effects because the effects were extremely minor, were temporary, or had no potential to be additive to other projects and therefore would not contribute to cumulative effects:

- Geology, seismology, and soils
- Water supply
- Hydropower
- Land use and socioeconomics
- Recreation
- Water quality
- Cultural resources
- Traffic and circulation
- Air quality
- Noise
- Visual resources

- Public health and safety
- Public services

9.2.1 Related Flood Control Activities Affecting the American River System

American River Water Resources Investigation

The purpose of the American River Water Resources Investigation (ARWRI) was to identify unmet water-related resources needs in the Bureau's American River service area, to formulate alternative plans to meet those needs, and to select a preferred and implementable alternative. Issues that were addressed include water supply, water quality, fisheries, recreation, and power production. The American River service area includes most of the American River drainage basin, parts of the lower Sacramento River below its confluence with the American River, and a portion of the Delta, primarily in San Joaquin County.

Folsom Flood Management Plan

Section 9159 of the 1993 Defense Appropriations Act directed the Secretaries of the Army and Interior to jointly develop and implement a flood management plan for the American River and Folsom Dam that would ensure prompt, reliable, and full use of the flood control capability at Folsom Dam. The Bureau and the Corps cooperated in preparing the plan. The plan's objectives are to maximize the flood control capability in the 400,000-acre-foot flood reservation of Folsom Reservoir and to improve the streamgage network and flood forecast system for the upper American River basin. In addition, the plan recognizes that reservoir releases need to be made as quickly as possible in anticipation of incoming flow and in accordance with the existing water control manual.

The plan recommends features and operational changes to:

- Increase the allowable rate of increase in Folsom Dam outflow from 15,000 cfs in a 2-hour period to 30,000 cfs in a 2-hour period;
- Implement a 4-hour response time in which to begin actions to match reservoir outflows to inflows;
- Improve the existing downstream flood-warning system;
- Install telemetered streamflow gages;
- Automate flood control gates at Folsom and Nimbus Dams; and
- Modify the river outlets at Folsom Dam to allow their full use in combination with spillway releases.

Folsom Dam Safety Study

The Bureau is determining the extent of Folsom Dam's safety deficiency. As discussed in Section 2.1, "Facilities and Projects," Folsom Dam cannot pass the full probable maximum flood (PMF). The study will determine the risk and consequences of dam failure attributable to the PMF overtopping the dam and will develop a corrective dam safety plan. The schedule of interim reports is as follows:

Risk analysis report (determines risk of dam failure and whether risk is acceptable or not)	August 2001
Decision document (decides whether dam safety corrective action is warranted)	September 2001
Corrective action report (recommends a plan to correct dam safety; will be forwarded to Congress)	2002

Folsom Dam and Reservoir Reoperation, Operation Plan and EIS (1992)

The Folsom Dam and Reservoir Reoperation Operation Plan was prepared by the Corps presents the results of studies intended to identify the effects and costs of providing greater flood protection to portions of the Sacramento metropolitan area by increasing the seasonal flood control space in Folsom Reservoir. The report was based on an interim (10-year) reoperation of the reservoir to increase its flood space to 590,000 acre-feet, thus providing protection from a 100-year storm as defined by the Federal Emergency Management Agency (FEMA).

Draft Swainson's Hawk and Giant Garter Snake Habitat Conservation Plan (1992)

This draft report was prepared by SAFCA in compliance with the California Endangered Species Act (CESA). The principal goal of the plan was to create a legal framework to ensure that the local agencies controlling land use in the Natomas and Meadowview areas of Sacramento would exercise their authorities in a manner that would avoid jeopardizing the continued existence of the Swainson's hawk and giant garter snake as a result of urban growth. The report was not made final and was superseded by the "Natomas Basin Habitat Conservation Plan for Sacramento and Sutter Counties, California."

Wild and Scenic Rivers Studies (1992)

As part of its ARWRI, the Bureau was required to evaluate portions of the North and Middle Forks of the American River to determine their eligibility for National Wild and Scenic Rivers System (NWSRS) status. The results of those evaluations were presented in the report "Technical Team's Inventory and Recommendation for Wild and Scenic River Eligibility and Preliminary Classification," dated September 14, 1992.

An interagency team evaluated 23 miles of the Middle Fork (from Oxbow Dam to the confluence with the North Fork) and a total of 21 miles of two separate reaches of the North Fork (from the Colfax-Iowa Hill Bridge to the upper end of Lake Clementine and from North Fork

Dam to the intake of the Auburn Dam diversion tunnel). The team concluded that each segment was "eligible" for further study and that each was unique in several ways and contained at least one "outstandingly remarkable" value. The next phase of the investigation, to determine the suitability of each segment for NWSRS status, was conducted as part of the Bureau's ARWRI.

Final Environmental Impact Report for the Revised Natomas Area Flood Control Improvement Project (1993)

This report discusses alternatives designed to provide as much flood protection as possible to the Natomas area and portions of the lower Dry and Arcade Creek basins independent of any improvements that may subsequently be implemented along the main stem of the American River. Changes to the Natomas levee work recommended in the December 1991 feasibility report on the American River Watershed Investigation and authorized by the 1993 Defense Appropriations Act are described in the report. The levee and related improvements constructed around and adjacent to the Natomas basin are intended to provide residents and property owners protection from runoff from a 100-year storm.

SAFCA Folsom Dam Improvements with Minimized Reservoir Drawdowns – Reconnaissance Evaluations (November 1994)

Two prospective ways for improving the flood control capability of Folsom Dam and Reservoir were examined: installing supplemental low-level outlets to increase the dam's release capacity during the early stage of a flood and raising the dam to increase the volume of flood control storage available. Designs and cost estimates were developed for these proposals. How well the proposals met targeted objectives also was analyzed.

Revised Natomas Basin Habitat Conservation Plan: Sacramento and Sutter Counties, California (1995)

The purpose of the Natomas Basin Habitat Conservation Plan is to mitigate for the loss of existing habitat to anticipated urban development and to reduce the potential for losses of the giant garter snake from operation of the water supply and drainage system. The goal of the Natomas Basin Habitat Conservation Plan was to acquire, control, preserve, restore, and enhance habitat values of the Natomas basin while allowing urban development to proceed according to local land use plans.

American River Watershed Project, California, Part I: Main Report, Part II: Final Supplemental Environmental Impact Statement/Environmental Impact Report (1996)

As mentioned in Section 1.4, "Background," in response to congressional direction in 1993, the Corps and its local sponsors, the Reclamation Board and the Sacramento Area Flood Control Agency (SAFCA), prepared the SIR to provide information in addition to that presented in the 1991 feasibility report. The SIR was a comprehensive feasibility level study. The SIR presented three final candidate plans: the Folsom Modification Plan, the Folsom Stepped Release Plan, and the Detention Dam Plan.

The Detention Dam Plan primarily involved constructing a 508-foot-high flood detention dam on the North Fork American River to create a detention capacity of 894,000 acre-feet. This alternative would reduce the probability of flooding to less than approximately a 1-in-500 chance in any year. It would provide the greatest possible increase in flood protection to the Sacramento area and was the National Economic Development (NED) Plan.

Sacramento and San Joaquin Rivers Comprehensive Study (1997)

In response to extensive flooding and damages experienced in 1997, Congress authorized the Corps to provide a comprehensive analysis of the Sacramento and San Joaquin River basin flood management systems and to partner with the State of California to develop a master plan for flood management into the next century. In March 1999, the Corps and the Reclamation Board completed Phase I of the study, which focused on evaluating current conditions through a postflood assessment, developing hydrologic and hydraulic models, establishing a mission statement, identifying flooding and related environmental problems, formulating preliminary planning objectives, initiating a public involvement program, collecting potential solution measures, and developing a plan of action for Phase II.

Phase II is underway and is concentrating on fully implementing the public involvement program, conducting feasibility-level assessments, developing basin master plans, and developing a programmatic EIS/EIR to support implementation. The final report of the comprehensive study will be a programmatic document and will include a recommendation for programmatic authorization of the implementation of the master plans so that implementation funds can be scheduled consistent with fiscal resources and other constraints.

SAFCA Folsom Dam Modification Report New Outlets Plan (Revision 1) (March 1998)

The SAFCA Folsom Dam Modification Report New Outlets Plan presents a Folsom Dam modification alternative designed to increase low-level outlet capacity. The modification consists of adding new outlet facilities but avoids taking existing facilities out of operation. It also avoids major traffic effects. Design, performance, and cost data are presented.

SAFCA Information Report: Next Step for Flood Control along the American River (1998)

This SAFCA information report presents three American River flood control plans: the Folsom Dam Modification Plan, the Folsom Dam and Levee Modification Plan, and the Auburn Detention Dam Plan. The Folsom Dam Modification Plan consists of modifications to the dam, which include lowering the main spillway, enlarging the eight existing low-level outlets, replacing the five main and three auxiliary spillway gates, and strengthening the cores of Mormon Island Dam and two wing dikes. The maximum space required under the variable storage space operation at Folsom would be reduced from 670,000 to 600,000 acre-feet.

The Folsom Dam and Levee Modification Plan involves making recreational and environmental improvements in the lower reach of the American River Parkway; raising and strengthening the existing American River levees; modifying the Howe Avenue, Guy West, and

Union Pacific Railroad bridges; modifying drainage facilities that discharge to the river; widening the Sacramento Weir and Bypass; and raising and strengthening levees in the Yolo Bypass. This plan involves raising the design capacity of the American River channel from 115,000 to 180,000 cfs.

The Auburn Detention Dam Plan, a flood detention dam capable of storing up to 894,000 acre-feet of floodwater, would be constructed at the confluence of the North and Middle Forks of the American River, near Auburn.

In addition, the document presents a new, less costly alternative to outlet modifications. This new outlet plan consists of adding five new outlets in the emergency spillway and enlarging the stilling basin.

Auburn Cofferdam Reconstruction Appraisal Study (1999)

In March 1999, the Bureau completed the Auburn Cofferdam Reconstruction Appraisal Study, which presented the results of appraisal-level designs and estimates for construction of a minimum-cost, "dry" dam at the site of the original Auburn Cofferdam on the North Fork of the American River. The dam would provide 180,000 acre-feet of flood storage and would be able to withstand overtopping during large flood events.

American River Watershed, California Information Paper (1999)

The Corps prepared the American River Watershed, California Information Paper. It provides information in addition to that presented in the March 1996 SIR on the American River Watershed Investigation. It presents a description of significant changes in baseline conditions since completion of the SIR and implementation of several flood control features in the Sacramento area. The report includes descriptions and evaluations of four supplemental improvement plans (additional to those in the SIR) identified by various interest groups to reduce the flood risks to Sacramento. These alternative plans are described in Section 1.4, "Background."

Final Program Environmental Impact Report on Flood Control Improvements along the Mainstem of the American River (2000)

This program EIR evaluates the effects associated with constructing and operating the flood control elements proposed to be part of a financing district. The proposed actions described in this report include reoperating Folsom Reservoir on a long-term basis, modifying Folsom Dam's outlet works, equalizing levee heights along the Lower American River, making improvements to the mouth of Mayhew Drain, and increasing conveyance capacity to the South Sacramento Streams Group.

Additional Information, Folsom Dam Flood Control Storage Downstream Levees (2000)

This report, prepared by the Corps, is intended to provide additional information on two of the flood damage reduction plans under investigation to reduce the risk of flooding to

Sacramento. The report includes background information on flood problems and potential solutions in the Sacramento area; includes additional information, including costs and benefits, for the Modified Stepped Release Plan and the Folsom Enlargement Plan; and describes potential future actions for implementing a project to increase flood protection for the Sacramento area. The report was prepared in response to Congressional direction in Section 566 of the WRDA of 1999.

Long-Term Reoperation of Folsom Reservoir

The current approved flood-control diagram for Folsom Reservoir requires 400,000 acre-feet (400 TAF) of flood storage capacity during the flood season. However, the reservoir is currently operated for additional flood storage capacity through an agreement between the Bureau and SAFCA. This "interim reoperation" requires a variable flood storage capacity of 400 to 670 total acre-feet (TAF), depending on upstream storage conditions. Additional components of the long-term reoperation plan is to reconfigure the penstock intake shutters from a 1-1-7 configuration to a 1-1-2-2-3 configuration and to enhance a portion of the flood plain to improve conditions for Sacramento splittail and other native fish species. Environmental documentation has been prepared for this project in the past and an updated Environmental Assessment is currently being prepared by the Bureau and SAFCA.

Lower American River Common Features Project

The Corps, Reclamation Board, and SAFCA are implementing ongoing programs for levee stabilization and raising in the Lower American River and elsewhere in the Sacramento area. The Lower American River levee projects are being implemented pursuant to the WRDA 1996 and WRDA 1999 authorizations and other programs. Substantial levee improvement work is currently underway.

Sacramento River Bank Protection Project

The Sacramento River Bank Protection Project (SRBPP) was authorized to protect the existing levees and flood control facilities of the Sacramento River Flood Control Project. SRBPP is a long-range program of bank protection authorized by the Flood Control Act of 1960. SRBPP directs the Corps to provide bank protection along the Sacramento River and its tributaries, including that portion of the Lower American River bordered by Federal flood control project levees. Recently, beginning in 1996, erosion control projects at five sites covering almost two miles of the south and north banks of the Lower American River have been implemented. Bank protection at one of these sites, River Mile 8.7 between Howe and Watt Avenues on the right (north) bank, may be extended pending the results of an evaluation currently underway. The SRBPP is an ongoing project and additional sites requiring maintenance will continue to be identified indefinitely.

Streambank Protection for the Lower American River – Final Environmental Impact Report and Supplemental Environmental Impact Statement V for the Sacramento River Bank Protection Project

This document is a supplemental EIS and EIR and is tiered to the original EIS for the SRBPP and to Supplements I-IV, prepared by the Corps or jointly by the Corps and the Reclamation Board. Supplemental EIS IV set forth a programmatic approach to future project assessment under NEPA and disclosed several unavoidable consequences of methods of bank protection authorized by the SRBPP. This document broadens the programmatic approach through direct extension to the American River and its unique resources, problems, and public issues. The primary intent of this document is to provide a framework for the focusing of future environmental issues relevant to the lower American River. In addition, this document provided site-specific review of three proposed bank protection projects (construction completed in 2000).

Folsom Dam Maintenance

The Bureau, the operator of Folsom Dam, conducts routine maintenance activities on Folsom Dam and will continue to do so for the foreseeable future.

Folsom Dam Modification Project

The Folsom Dam Modification Project is intended to increase flood protection for the American River flood plain. The project includes modifying the outlets at Folsom Dam and the use of surcharge storage at Folsom Dam/Reservoir. Outlet modification involves expansion of the existing outlets to allow more timely water releases during flood events. Modification of surcharge storage involves changes to physical components of Folsom Dam, the core of Mormon Island Dam and Dikes 5 and 7, and flood proofing the Newcastle Powerhouse. In addition, the emergency spillway release diagram would be revised. Improving surcharge storage allows releases to the Lower American River during a very large flood event to be maintained at an acceptable level for a longer duration. Construction could begin as early as 2002.

River Corridor Management Plan

The River Corridor Management Plan (RCMP) is intended to promote a cooperative approach to managing and enhancing the Lower American River within the framework of the 1985 American River Parkway Plan. The RCMP outlines goals, objectives, and a 3-year action plan for: protecting and enhancing fisheries and in-stream habitat, protecting and enhancing vegetation and wildlife habitat, improving the reliability of the existing flood control system, and enhancing the Lower American River's wild and scenic recreation values. The RCMP is also intended to provide long-term management direction by serving as a catalyst for updating the American River Parkway Plan. The RCMP is not a legally binding document. However, its endorsement signifies a shared commitment to creating a single blueprint for managing the Lower American River. Environmental compliance for each recommended action, or project, will proceed on a project-by-project basis. Some projects have already been approved while many still require further refinement and regulatory and permitting actions.

Folsom Dam Bridge Appraisal Report

The Bureau prepared the Folsom Dam Bridge Appraisal Report, which addresses the need for a permanent new bridge to remove traffic from the Folsom Dam Roadway. The Bureau studied whether to construct a new crossing of the American River, downstream from Folsom Dam. The proposed crossing would replace the existing crossing, Folsom Dam Road, which crosses the top of Folsom Dam. The Bureau has determined that a new permanent bridge downstream of Folsom Dam would provide improved safety and security at the dam, more efficient operations and maintenance, and a safer roadway, thus reducing the number of identified hazards associated with the existing crossing. A potential alignment for a new permanent bridge is presented. The recommendation of the appraisal report is to construct a new crossing that provides a two-lane, two-way road, which is the same as the existing crossing. However, the appraisal report also recommends that the new crossing be expandable to a four-lane, two-way road to accommodate future traffic demands. The estimated cost of the new bridge is approximately $42 million; however, there is currently no authorization or funding to construct a new permanent bridge. The recommended timeframe targets the year 2005 for completion.

CALFED Activities

The CALFED Bay-Delta Program is a cooperative effort among the public and state and federal agencies with management and regulatory responsibility in the Bay-Delta system. The Bay-Delta system is an intricate web of waterways created at the junction of the San Francisco Bay and the Sacramento and San Joaquin Rivers and the watershed that feeds them. The CALFED Bay-Delta Program was formed in 1994 as part of the Bay-Delta Accord to address the water management and environmental problems associated with the Bay-Delta system, including ecosystem restoration, water quality, water use efficiency, and levee integrity. The mission of the CALFED Program is to develop a long-term, comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.

Funded CALFED activities within the project area include a habitat restoration study in the Yolo Bypass (ERP-96-M13), inundation of a section of the Yolo Bypass to restore splittail and other native species (ERP-99-A01), and Yolo Bypass Restoration Study (ERP-98-E12). Modifications to levees within the Yolo Bypass to allow operation of the stepped release alternatives would be limited to improvements to the landside of bypass levees. Making these improvements would not conflict with the operation of the bypass or conflict with the CALFED aquatic or habitat improvements within the bypass.

9.2.2 Cumulative Effects Related to the No Action Alternative

Under Alternative 1 (No Action), the Federal government would take no action to implement a specific plan to increase flood protection along the American River beyond what is already authorized. Already authorized flood control projects on the American River include the Common Features Project, Folsom Dam Modification Project, Folsom Dam Reoperation, and Folsom Dam Flood Management Plan update. Cumulative effects associate with the No Action Alternative would be substantially similar to those described below for the action alternatives. Therefore, these effects would not contribute to cumulative effects.

9.2.3 Cumulative Effects Related to Folsom Dam Raise Alternatives

Alternatives 2, 3, and 4 involve raising Folsom Dam and surrounding dikes to provide temporary increased flood pool storage during major events. A 3.5-foot raise under Alternative 2, a seven-foot raise under Alternative 3, and a 12-foot raise under Alternative 4, with associated flood pool elevations of 478 feet, 482 feet, and 487 feet, respectively. As discussed in Chapter 5.0, "Flood Control Alternatives," implementation of these alternatives would result in construction-related disturbance to relatively small amounts of vegetation and wildlife habitat at Folsom Dam, the dikes that require raising, and borrow sites. These effects would result in a minor contribution to ongoing cumulative effects on vegetation and wildlife habitats throughout the region caused by urban and water resource development projects. Mitigation measures have been identified to reduce the contribution of these alternatives to such ongoing cumulative effects. No other construction-related contributions to cumulative effects have been identified.

These alternatives would result in the infrequent and temporary inundation of upland vegetation above the current maximum flood pool. Alternative 2 would inundate 1,374 acres, Alternative 3 would inundate 1,777 acres, and Alternative 4 would inundate 2,264 acres. These effects are not expected to result in permanent damage to vegetation and therefore these effects would not contribute to cumulative effects.

These alternatives would not alter operation of the SWP or the CVP and would not change flows in the Lower American River as compared to existing conditions except during and immediately following major storm events. These changes are not expected to result in measurable effects on aquatic or riparian resources and would therefore not contribute to cumulative effects on such resources.

9.2.4 Cumulative Effects Related to Stepped Release Alternatives

Alternatives 5 and 6 involve making relatively minor improvements to facilities and levees along the Lower American River to safely convey up to 160,000 cfs. Alternative 6 would also involve construction of a new river outlet at Folsom Dam. Under Alternative 7, substantially more levee improvements and construction would be required to convey up to 180,000 cfs through the Lower American River and improvements to the Sacramento Weir and the Sacramento and Yolo Bypass levees would also be required. As discussed in Chapter 5.0, "Flood Control Alternatives," these alternatives would result in construction-related disturbance to relatively small amounts of vegetation and wildlife habitat along the Lower American River, the Sacramento River, the Sacramento and Yolo Bypasses, and at borrow sites. As with the Folsom Dam raise alternatives, these effects would result in a relatively minor contribution to ongoing cumulative effects on vegetation and wildlife habitats throughout the region caused by urban and water resource development projects. Mitigation measures have been identified to reduce the contribution of these alternatives to such ongoing cumulative effects, should they be selected. No other construction-related contributions to cumulative effects have been identified.

These alternatives also would not alter operation of the SWP or the CVP and would not change flows in the Lower American River as compared to existing conditions except during and immediately following major storm events. These changes are not expected to result in

measurable effects on aquatic or riparian resources and would therefore not contribute to cumulative effects on such resources. While these alternatives would likely result in an increased volume of water being conveyed through the Sacramento and Yolo Bypasses and a corresponding increase in the numbers of individuals of sensitive fish species occurring in the bypasses, this effect is generally considered beneficial to those fish species and would therefore not contribute to cumulative effects.

9.2.5 Cumulative Effects Related to Combined Stepped Release and Folsom Dam Raise Alternative

This alternative would combine elements of both primary courses of action. Potential cumulative effects under this alternative are essentially identical to those described above for Alternatives 3 and 5.

9.2.6 Cumulative Effects Related to the Restoration Alternatives

The restoration alternatives involve construction activities to restore native habitats and ecosystem processes along the Lower American River. Alternatives 9.1 through 9.4 would modify portions of the flood plain to increase habitat values. Alternative 9.5 would modify Folsom Dam to improve water temperatures for native fish in the Lower American River. As discussed in Chapter 9.0, Alternatives 9.1 through 9.4 would result in construction-related disturbance to relatively small amounts of vegetation and wildlife habitat along the Lower American River. These effects would result in a relatively minor contribution to ongoing cumulative effects on vegetation and wildlife habitats throughout the region caused by urban and water resource development projects. However, these effects would be short-term and, overall, these alternatives are intended to provide a net benefit to vegetation and wildlife resources. No other construction-related contributions to cumulative effects have been identified.

Alternatives 9.1 through 9.5 also would not alter operation of the SWP or CVP and would not change flows in the Lower American River as compared to existing conditions. Alternative 9.5, Fish Restoration, would have a slight effect on the temperature of water in the Lower American River. These changes are expected to result in beneficial effects for fish and would therefore not contribute to cumulative effects.

9.3 Growth-Inducing Effects

Section 15126.2 (d) of the State CEQA Guidelines requires that when preparing an EIR, lead agencies discuss ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

In the study area, the local governments of the City of Sacramento, the City of Folsom, City of West Sacramento, County of Sacramento, County of El Dorado, County of Placer, and County of Yolo control growth and development. Each of these local governments has adopted a general plan consistent with State law. The general plans provide an overall framework for growth and development in the jurisdiction of each local government. Growth and development are also directly affected by local, regional, and national economic conditions.

Flood risk would be reduced by increasing the conveyance capacity of the Lower American River, Sacramento Bypass, and Yolo Bypass; increasing the flood storage capacity of Folsom Reservoir; or a combination of increasing conveyance capacity and storage capacity. The purpose of the project is to enhance flood protection to the Sacramento metropolitan area. Generally, all the project alternatives would further enhance flood protection for areas that would already be out of the 100-year flood plain after other projects are completed. These other projects include increasing the size of the outlets at Folsom Dam and enhancing the safety of levees along the American River. Further enhancing flood protection would not remove obstacles to growth, result in population increases, or encourage or facilitate other activities that could significantly affect the environment. New development must be consistent with existing city and county general plan policies and zoning ordinances regarding land use, open space, conservation, flood protection, and public health and safety. All development would need to comply with applicable environmental laws and regulations and would require approval by local authorities.

- The project alternatives will not result in any substantial growth inducing effects. Development has already occurred and will continue to occur in significant portions of the flood plain, independent of the flood protection currently provided.

9.4 Other Required Disclosures

9.4.1 Environmentally Preferable Alternative/Environmentally Superior Alternative

Alternative 3 has been identified as the environmentally preferable and the environmentally superior alternative, pursuant to the requirements of NEPA and CEQA, respectively. The environmentally preferred and environmentally superior alternative is the alternative that causes the least damage to the biological and physical environment and protects, preserves, and enhances historic, cultural, and natural resources while accomplishing the project's goals.

Construction-related effects at Folsom Reservoir would be nearly the same under Alternatives 2 and 3 with the exception of air quality, transportation, and recreation. Under Alternative 3, construction-related effects would extend to Mississippi Bar as a result of excavating and hauling borrow material; however, these effects would be short term and would not extend beyond the project construction period. Recreation opportunities at Folsom Lake would return to pre-project conditions and recreation opportunities occurring at Mississippi Bar and Willow Creek Recreation Area could be enhanced once construction is completed

Alternative 3 would also enhance flood protection along the lower American River to a level greater than under Alternative 2. Reducing the likelihood of an uncontrolled flood event would benefit both the biological and physical environment within the historic floodplain by avoiding or reducing damage attributable to a flood event.

Although the No-Action Alternative would result in no construction-related environmental effects, it would not meet the objectives of providing enhanced flood protection to the Sacramento area. The No-Action alternative would not include restoration of the sites along

the Lower American River or modifications to temperature control shutters at Folsom Dam and associated benefits to terrestrial and aquatic habitats.

The selection of Alternative 3 as the environmentally preferred and environmentally superior alternative is based on the conclusions of the impact analysis in Chapter 7 of this report.

9.4.2 Significant Adverse Effects that Cannot be Avoided if the Project is Implemented

The environmental effects of construction and operation of the project alternatives are summarized in Chapter 7.0, "Environmental Effects and Mitigation." The analysis indicates that one or more of the project alternatives would result in significant adverse effects on recreation, vegetation, wildlife, water quality, cultural resources, traffic and circulation, air quality, noise, visual resources, public health and safety, and public services. Most of these significant adverse effects can be avoided by implementing appropriate mitigation measures.

Some adverse effects cannot be avoided even when mitigation measures are implemented:

- Disruption of recreation opportunities at Goethe Park, Ancil Hoffman Park, Old Fair Oaks Bridge, and Nimbus Fish Hatchery during project construction (Alternative 7).
- Exceedance of air quality thresholds if NO_X emission credits are not available (Alternatives 2 through 8)
- Temporary increase in noise levels during construction (Alternatives 2 through 8)
- Permanent change in the character and quality of views from Mooney Ridge as a result of constructing a dike to protect private property from inundation (Alternatives 2, 3, 4, and 8)
- Permanent change in the visual character of portions of the American River Parkway as a result of levee and floodwall construction (Alternative 7)

9.4.3 Relationship between Local Short-Term Uses of the Environment and Maintenance of Long-Term Productivity

Short-term uses of the environment that would occur as a result of construction of the project alternatives include effects on vegetation, wildlife, air quality, and water quality. No short-term uses of the environment are expected to occur after the project is placed in operation.

Adverse effects on air quality and water quality would be limited to the construction phase of the project. The quality of air and water in the project area will return to pre-project levels after construction is completed. No adverse effects on air quality or water quality would occur after the project is placed in operation. No adverse effect on the long-term productivity of the environment associated with air quality or water quality would occur.

Adverse effects on vegetation and wildlife habitat would occur during the construction phase of the project as a result of enlarging wing dams, dikes, and levees and creating borrow areas and staging areas. In the long term, planting of vegetation would offset most of this loss and would ensure that the long-term productivity of the environment is maintained.

Beneficial effects from the two floodplain ecosystem restoration alternatives (Bushy Lake and Woodlake) will restore native vegetation and benefit fish and wildlife habitat. Specifically, 620 acres of disturbed habitat will be restored, in its place thirty-three acres of riparian forest, 26 acres of wetlands, and 111 acres of oak woodland/savannah will be created. Additionally, non-native vegetation will be replaced with native plants, and flood plain processes would be restored in some areas. Bushy Lake would receive a more reliable water source; therefore, the quality of the water draining into the American River from the Bushy Lake site would be improved. Lowering the floodplain and planting seasonal wetland species would increase the amount of seasonal wetland habitat available for use by native wildlife for nesting and forage. Additionally**,** modifying the hydrology and the construction of side-channels off the main American River channel and planting shallow aquatic, seasonal wetlands, and riparian forest species would address specific needs of the endangered Sacramento splittail, salmon, and steelhead fish species. The restoration at the Bushy Lake site would increase the availability of juvenile fish habitat and assist in the recovery and return of these species to the American River system. Reintroducing flows to Woodlake and the formation of new wetlands at the site would result in an increase in seasonal wetland habitat and improve the diversity of both the plant and wildlife communities. The fisheries restoration alternative (Shutter Modifications) will benefit aquatic habitat in the Lower American River for native fish by lowering water temperatures thus increasing survival rates for Chinook salmon and steelhead, which are the species of primary concern.

9.4.4 Significant Adverse Environmental Changes Associated with the Project

The results of the environmental analysis indicate that implementing the project alternatives would result in significant adverse effects on recreation, vegetation, wildlife, water quality, cultural resources, traffic and circulation, air quality, noise, visual resources, public health and safety, and public services. Most of these effects can be avoided by implementing appropriate mitigation measures. A summary of the environmental effects is provided in Chapter 7.0, " Environmental Effects and Mitigation." Tables 7-18 and 7-19 provide a summary of the environmental effects and a comparison of effects between the project alternatives.

9.4.5 Irreversible and Irretrievable Commitments of Resources

The project alternatives would result in the irretrievable commitment of lands, construction materials, and fossil fuels needed to modify L. L. Anderson Dam spillway; raise Folsom Dam wing dams and dikes, and raise levees. Increasing the size of the L. L. Anderson Dam spillway, flood storage capacity of Folsom Reservoir, and levees along the lower American River and Yolo Bypass would result in an irreversible change in land use because the height and width of these existing facilities would increase. The enlarged facilities would continue to be compatible with the open space or urban uses of the surrounding area. The proposed flood control facilities would result in the irretrievable commitment of construction materials and fossil

fuels during the construction phase of the project. Operation and maintenance of the flood control facilities is not expected to increase the use of construction materials or fossil fuels.

The ecosystem restoration sites would also require the irretrievable commitment of lands, construction materials, and fossil fuels. Construction would require the increased use of materials and fossil fuels. Operation and maintenance of the restoration sites would result in a small increase in use of construction materials and fossil fuels compared to existing uses at each site. The restoration activities sites would be compatible with and enhance the open space and urban uses of the surrounding areas.

9.4.6 Areas of Controversy and Unresolved Issues

The Preferred Plan includes areas of known controversy and contains unresolved issues. The Corps has identified the need to construct a bridge that would allow traffic to be temporarily relocated off of the top of Folsom Dam during construction of the project; traffic will be restored to the top of the roadway at the completion of construction. The Bureau is also pursuing funding for construction of a bridge that would be permanently relocate traffic off the top of Folsom Dam. The cost of the permanent bridge is upwards of $45 million. The temporary construction bridge that accomplishes the project objectives could be constructed for about $21 million. A second issue involves the California Department of Parks and Recreation and their concerns on impacts to recreation; extensive coordination will be required to ensure that recreation impacts are minimized. Additionally, there are several unresolved issues related to truck traffic, barge operation and recreation access that will be addressed during the development of the borrow plan for Mississippi Bar.

9.4.7 U.S. Fish and Wildlife Service Recommendations

The draft Fish and Wildlife Coordination Act Report (CAR) is contained in Appendix A. The CAR provides detailed recommendations of the U.S. Fish and Wildlife Service (USFWS) with respect to fish, wildlife, and vegetation issues associated with the project. The recommendations are briefly summarized below. Most of the recommendations have either been incorporated into the project description or are addressed as potential mitigation measures in Chapter 7.0. Other recommendations will require additional interaction between the Corps, the local sponsor, and the USFWS as more detailed plans and information become available.

L. L. Anderson Dam Spillway Improvements

Draft recommendations include:

- Appropriately handling materials such as fuel, oils, cement products, and similar products away from water bodies.

- Avoiding and minimizing effects on natural habitats.

- Minimizing the potential for excavated materials and sediment from entering the river.

- Reseeding and revegetating disturbed areas.

- Minimizing effects on bird species, if present, through construction timing measures.

Mitigation measures that address these recommendations have been identified in Chapter 7.0.

Folsom Dam Raise Plans

- Avoiding and minimizing effects on natural habitats.

- Appropriately handling materials such as fuel, oils, cement products, and similar products away from water bodies.

- Reseeding and revegetating disturbed areas.

- Compensating for construction effects by developing mitigation for oak woodland, blue oak-gray pine woodland, seasonal wetland, and riparian woodland habitats once a plan has been selected and necessary design work has been completed.

- Developing a monitoring and adaptive management program to monitor vegetation around Folsom Reservoir over the life of the project.

Stepped Release Plans

- Avoiding and minimizing effects on natural habitats.

- Appropriately handling materials such as fuel, oils, cement products, and similar products away from water bodies.

- Reseeding and revegetating disturbed areas.

- Limiting use of rock revetment or rock fill to areas where it was present prior to the 1997/1998 floods.

- Modifying Corps levee maintenance regulations to allow tree growth on existing and proposed levees.

- Developing appropriate mitigation plans to compensate for losses of riparian woodland, oak woodland, agricultural lands, herbaceous habitat, SRA cover, individual trees, and shrubs once a plan has been selected and necessary design work has been completed.

- Providing further information on flow-related parameters above 115,000 cfs (velocity, depth, critical shear exceedance, force) in order to fully evaluate operational effects.

Ecosystem Restoration Plans

- Pursuing implementation of the Folsom Dam automated shutter modernization option.

- Pursuing implementation of a restoration alternative at each of the four terrestrial sites under consideration.

- Selecting sites for implementation based on their relative habitat and ecosystem value potential as follows: Urrutia, Arden Bar, Woodlake, and Bushy Lake.

- Minimizing effects on valley elderberry longhorn beetle (VELB).

- If any constraints limit restoration activities, focus restoration first on the highest habitat and ecosystem value options as recommended.

- Developing detailed long-term monitoring and remediation plans.

- Providing more detailed and updated material to USFWS as it is developed for each site.

9.4.8 Mitigation and Environmental Monitoring

The California Public Resources Code Section 21081.6 requires that a reporting and monitoring program be adopted to ensure compliance with project mitigation measures identified in a CEQA analysis or by other conditions requiring monitoring. According to that section, "the reporting or monitoring program shall be designed to ensure compliance during project implementation." The Mitigation Monitoring and Reporting Plan will identify the effects and present the mitigation measures contained in the final EIR/EIS for the Lower American River Long-Term Study.

9.5 Compliance with Applicable Laws, Policies, and Plans

The American River Watershed Project must fulfill Federal, State, regional, and local environmental requirements as described below. These requirements are summarized below.

9.5.1 Federal Laws, Regulations, and Policies

Clean Air Act

National ambient air quality standards (NAAQS) were established in 1970 by the Federal Clean Air Act (CAA) for six pollutants: carbon monoxide, ozone, particulate matter, nitrogen

dioxide, sulfur dioxide, and lead. Areas that do not meet the ambient air quality standards are called nonattainment areas. The CAA requires states to submit a SIP for nonattainment areas. The SIP, which is reviewed and approved by the EPA, must delineate how the Federal standards will be met. States that fail to submit a plan or to secure approval may be denied Federal funding and/or required to increase emission offsets for industrial expansion. The 1990 amendments to the CAA established categories of air pollution severity for nonattainment areas, ranging from "marginal" to "extreme." SIP requirements vary, depending on the degree of severity.

The conformity provisions of the CAA are designed to ensure that Federal agencies contribute to efforts to achieve the NAAQS. EPA has issued two regulations implementing these provisions. The general conformity regulation addresses actions of Federal agencies other than the Federal Highway Administration and the Federal Transit Administration. General conformity applies to a wide range of actions or approvals by Federal agencies. Projects are subject to general conformity if they exceed emissions thresholds set in the rule and are not specifically exempted by the regulation. Such projects are required to fully offset or mitigate the emissions caused by the action, including both direct emissions and indirect emissions over which the Federal agency has some control.

The Corps is required to make a general conformity determination to ensure that measures undertaken as part of the American River Long-Term Project conform to applicable air quality state implementation plans (SIPs) developed pursuant to the Clean Air Act.

The air quality analysis presented herein (Chapter 7.0, "Environmental Effects and Mitigation" and Appendix I, "Environmental") shows that several of the action alternatives exceed the general conformity de minimis emission thresholds. Consequently, these alternatives are potentially subject to the general conformity regulation. However, since completion of the Draft Supplemental Plan Formulation Report/Environmental Impact Statement/Environmental Impact Report (SPFR/EIS/EIR) the Corps has further refined the construction sequence and schedule for Alternative 3. As a result, only the NO_X emissions would exceed the air quality standards and thresholds identified by SMAQMD and EPA. Implementation of mitigation measures would reduce emissions of NO_X, but not to a less-than-significant level; the purchase of air quality credits could reduce the effect of NO_X to a less-than-significant level, if available.

EPA guidance, states that a conformity determination is not required for each alternative under consideration. Instead, such a determination should only be conducted for the alternative that the relevant Federal agency ultimately approves, permits, or funds. A detailed general conformity determination would be prepared once design plans and specifications have been developed for the preferred alternative if projected emissions exceed the SIP standards.

Clean Water Act

Section 404. Section 404 of the CWA requires Federal projects to comply with regulations regarding the discharge of dredged or fill material into "waters of the United States," including wetlands. Section 10 of the Rivers and Harbors Act of 1899 prohibits the unauthorized obstruction or alteration of any navigable waters of the United States. Section 404 jurisdiction typically encompasses the actions and areas regulated by Section 10; therefore, when applicable, the Corps combines the requirements of Section 10 with those of Section 404.

Actions typically subject to Section 404 requirements are those that would take place in wetlands or channels conveying natural runoff, including intermittent streams, even if they have been realigned. Artificial channels that convey only irrigation water usually are not included. Section 404 regulates any discharge activity below the ordinary high-water level—the water level with a flow equal to the mean annual flood—of a stream channel. Examples of such discharge activities include placement of fill material, placement or alteration of structures that have the intended effect of functioning as fill, or any discharge activity that would affect wetlands or the surface water conveyance or capacity of a channel.

A Section 404(b)(1) evaluation has been prepared for the preferred plan (Seven-Foot Dam Raise) and is included as Appendix 1d. The evaluation includes the underlying assumptions and the conclusions drawn. The preferred plan includes the assumption that no in-water work is anticipated. Factual determinations include confining the work to the smallest possible area and restricting the work to the upland area where possible, as well as implementing best management construction practices to minimize potential effects to the reservoir and downstream areas. Less-than-significant adverse effects are anticipated for aquatic ecosystems; contaminants; disposal sites; suspended particles/turbidity; water circulation, fluctuation and salinity; and physical substrate. Mitigation for losses to vegetation and wildlife will occur. The Corps has determined that this project as proposed is consistent or otherwise in compliance with the Section 404(b)(1) guidelines of the Clean Water Act.

This document meets the exemption criteria of Section 404(r) of the Clean Water Act because information on the effects of the discharge of dredged or fill material, including the consideration of the guidelines developed under Section 404(b)(1), is included as part of this SPFR/EIS/EIR and will be submitted to Congress before the actual discharge of dredged or fill material in connection with construction of this project and prior to either authorization of this project or appropriation of funds for construction would occur.

Section 401. Under Section 401 of the CWA, applicants for a Federal license or permit to conduct activities that may result in a discharge of a pollutant into waters of the United States must obtain a certification from the State in which the discharge would originate or, if appropriate, from the interstate water pollution control agency that has jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all actions with Federal agency involvement that could affect State water quality, including actions requiring Federal agency approvals, must comply with Section 401. The Corps has determined that this project as proposed is consistent or otherwise in compliance with the Section 404(b)(1) guidelines of the Clean Water Act and meets the requirements of Section 404(r); therefore, the Corps plans to seek an exemption under Section 404(r) of the Clean Water Act precluding the Corps from Section 401 requirements. The Reclamation Board will be responsible for Clean Water Act compliance for the State.

Section 402. Section 402 of the CWA prohibits the discharge of all pollution into surface waters unless permitted under the NPDES, which is administered by the EPA, or by a State agency with a Federally approved control program. In California, Section 402 authority has been delegated to the SWRCB and is administered by RWQCBs.

Erosion and sediment delivery will be minimized during project construction. Related efforts will include measures to minimize the potential for sediment to enter the American River and interim measures to stabilize soil pending establishment of vegetative cover. As part of the SWPPP required for project construction, an erosion and sediment control plan will be prepared and incorporated into project construction plans and specifications. The selected contractor(s) will be responsible for implementing the erosion and sediment control plan under Corps supervision, as required by the permitting process of the NPDES.

Section 313. Section 313 of the CWA (U.S. Code Title 33, Section 1323. Federal facilities pollution control) requires "each department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal government having jurisdiction over any property or facility, or engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants…shall be subject to, and comply with, all Federal, State, interstate and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity. The Corps will comply with this mandate through the environmental review process and by implementing recommended measures proposed by the California SWRCB and RWQCB.

Endangered Species Act

Section 7 of the ESA of 1973, as amended (16 USC 1531), requires Federal agencies to consult with the Secretary of the Interior (the Service) and the Secretary of Commerce (NMFS) to ensure that agency actions do not jeopardize the continued existence of endangered or threatened species or destroy or adversely modify critical habitat that supports such species. Species that are Federally listed or proposed for listing as threatened or endangered known to occur in the project area are winter-run chinook salmon, Central Valley spring-run chinook salmon, Central Valley steelhead, splittail, delta smelt, valley elderberry longhorn beetle, vernal pool fairy shrimp, giant garter snake, and California red-legged frog.

For Alternatives 2, 3, 4, and 8, these actions may adversely affect the threatened valley elderberry longhorn beetle. These alternatives are not likely to adversely affect the Central Valley steelhead, chinook salmon (winter-run and spring-run), their designated essential fish habitat, and the Sacramento splittail.

Implementing Alternatives 5, 6, 7, and 8 may adversely affect the threatened valley elderberry longhorn beetle, Sacramento splittail, delta smelt, and giant garter snake. These alternatives may also adversely affect the Central Valley steelhead, chinook salmon (winter-run and spring-run), and their designated essential fish habitat. In addition, the State-listed Swainson's hawk and bank swallow may also be affected by these alternatives.

Under Alternative 9, Ecosystem Restoration, the work activities would be structured so as not to adversely affect listed species.

The Corps prepared a biological assessment (BA) (January 2002) of threatened and endangered species and submitted it to the Service and NMFS with a request for formal consultation on the VELB and a not likely to adversely affect for all other listed species within

the project area. As part of the Section 7 consultation process, the Service is expected to provide a Biological Opinion in response to the BA. The process takes a minimum of 135 days.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act 16 (USC 661 et seq.) (FWCA) requires Federal agencies to consult with the Service or, in some instances, with NMFS, and with State fish and wildlife resource agencies before undertaking or approving water projects that control or modify surface water. The purpose of this consultation is to ensure that wildlife concerns receive equal consideration to water resource development projects and is coordinated with the features of these projects. The consultation is intended to promote the conservation of fish and wildlife resources by preventing their loss or damage and to provide for the development and improvement of fish and wildlife resources in connection with water projects. Federal agencies undertaking water projects are required to fully consider recommendations made by the Service NMFS, and State fish and wildlife resource agencies in project reports, such as documents prepared to comply with NEPA and CEQA, and to include measures to reduce effects on wildlife in project plans. The Service has indicated to the Corps that this ongoing participation is satisfying the requirement of the FWCA.

The Service prepared a draft CAR report on American River Watershed Project Long-Term Evaluation in August 2001 and a supplement to the draft CAR in December 2001 (Appendix A.3). A final CAR will be provided by the Service upon completion of the Biological Opinion that will be issued as part of compliance with Section 7 of the Endangered Species Act. The estimated date of completion is July 2002.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) establishes a management system for national marine and estuarine fishery resources. This legislation requires all Federal agencies to consult with NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect EFH. EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The legislation states that migratory routes to and from anadromous fish spawning grounds should also be considered EFH. The phrase "adversely affect" refers to the creation of any effect that reduces the quality or quantity of EFH. Federal activities that occur outside an EFH but that may, nonetheless, have an effect on EFH waters and substrate must also be considered in the consultation process. Under the Magnuson-Stevens Act, effects on habitat managed under the Pacific Salmon Fishery Management Plan must also be considered.

The Magnuson-Stevens Act states that consultation regarding EFH should be consolidated, where appropriate, with the interagency consultation, coordination, and environmental review procedures required by other Federal statutes, such as NEPA, the FWCA, the CWA, and the ESA. EFH consultation requirements can be satisfied through concurrent environmental compliance requirements if the lead agency provides NMFS with timely notification of actions that may adversely affect EFH and if the notification meets requirements for EFH assessments. The Corps has addressed the Magnuson-Stevens Fishery Conservation and Management Act through the ESA compliance process by consulting with the NMFS on the

expected effects on chinook salmon, steelhead, Sacramento Splittail, delta smelt and essential habitat associated with the salmonids. Construction or operation of the flood control alternatives would not adversely affect fish habitat; additionally, the ecosystem restoration alternatives, and in particular the fisheries restoration alternative, would enhance fish habitat in the Lower American River. Since there are no adverse affects to fisheries that cannot be mitigated to a less-than-significant level, no consultation is required with NMFS; and the Corps is in full compliance with the Magnuson-Stevens Fishery Conservation and Management Act.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.) implements various treaties and conventions between the United States, Canada, Japan, Mexico, and Russia, providing protection for migratory birds as defined in 16 USC 715j. The MBTA makes it unlawful for any person to take, kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird, including feathers, parts, nests, or eggs. The MBTA does not protect the habitat of migratory birds. Construction of all project alternatives would comply with provisions of the MBTA.

National Environmental Policy Act

The National Environmental Policy Act (42 USC 4321; 40 CFR 1500.1) is the nation's broadest environmental law. NEPA applies to all Federal agencies and most of the activities they manage, regulate, or fund that affect the environment. It requires all agencies to disclose and consider the environmental implications of their proposed actions. NEPA establishes environmental policies for the nation, provides an interdisciplinary framework for Federal agencies to prevent environmental damage, and contains "action-forcing" procedures to ensure that Federal agency decision makers take environmental factors into account.

NEPA requires the preparation of an appropriate document to ensure that Federal agencies accomplish the law's purposes. The President's CEQ has adopted regulations and other guidance that provides detailed procedures Federal agencies must follow to implement NEPA. The Corps will use the SEIS to comply with CEQ's regulations and document NEPA compliance. Another SEIS is being prepared because the American River Watershed Long-Term project has been substantially modified with the addition of increasing the flood storage capacity of Folsom Reservoir and there are new circumstances and information relevant to the environmental concerns previously identified.

National Historic Preservation Act

The NHPA of 1966, as amended, requires Federal agencies to take into account the effects of a proposed undertaking on cultural resources listed or eligible for listing in the NRHP. Because the American River Watershed Project Long-Term Evaluation could cause potential affects to historic properties, the Corps must comply with Section 106 of the NHPA. Section 106 requires Federal agencies or agencies for which they provide funding or issue permits to take into account the effects of their actions on properties that may be eligible for listing or that are listed in the NRHP.

The Section 106 review process consists of four steps: (1) identification and evaluation of historic properties, (2) assessments of the effects of the undertaking on properties that are eligible for listing in the NRHP, (3) consultation with the California State Historic Preservation Officer and appropriate agencies to develop an agreement addressing the treatment of historic properties, and (4) receipt from the Advisory Council on Historic Preservation of comments on the agreement or results of consultation. Once these steps are completed, the American River Watershed Project, Long-Term Evaluation would proceed in accordance with the conditions of the agreement, including:

- All cultural resources actions will be coordinated pursuant to the Programmatic Agreement executed 13 Dec 1991; incorporating revisions to 36 CFR 800 dated December 12, 2000, unless otherwise amended.

- Before any ground-disturbing activities occur, all proposed work will be required to be coordinated with the State Historic Preservation Officer.

- All locations where a project is planned will be subjected to updated records and literature search and field survey, if necessary.

- All archeological sites in the area of potential effect for each project element will be tested and evaluated for National Register eligibility. If National Register-eligible sites are identified, a mitigation program will be executed pursuant to the Programmatic Agreement.

- Native American consultation will be conducted pursuant to the December 12, 2000 version of 36 CFR 800.

- An archeological monitor will be on site for all ground-disturbing activities in the area of potential effects. If cultural deposits are encountered during monitoring activities, all work in the area will cease until the provisions of 36 CFR 800.13(b) Discoveries without prior planning are met.

A qualified archeological monitor will be on site during heavy equipment activity adjacent to historic structures to ensure avoidance of identified historic properties.

National Wild and Scenic Rivers Act

The National Wild and Scenic Rivers Act of 1968 was enacted to preserve selected rivers or sections of rivers in their free-flowing condition in order to protect the quality of river waters and to fulfill other national conservation purposes. The Lower American River has been included in the Federal wild and scenic rivers system since 1981, when the Secretary of the Interior added State-designated rivers to the Federal system. The particular values for which the American River was designated were not explicitly identified in the Act, but the Secretary of the Interior's EIS for the inclusion described the recreation and anadromous fishery values of the American River as "outstandingly remarkable". Unlike some rivers in the system, the Lower American River was not placed under the jurisdiction of a single Federal agency for the purposes

of land rights acquisition or management. Instead, the act requires that all agencies exercise their existing powers in a manner consistent with the policy and provisions of the act.

As discussed in Section 7.6, "Recreation" and Section 7.7, "Fisheries" evaluates the effects of the project alternatives on recreation activities and fish habitat in the Lower American River. The analysis concluded that these resources would not be adversely affected. Therefore, construction and operation of the flood control alternatives would not affect the "outstandingly remarkable" values of the river. The Preferred Plan does not include either construction within the bed or on the banks of the American River; therefore, the Corps is in full compliance with the National Wild and Scenic Rivers Act.

1990 Water Resources Development Act

The 1990 Water Resources Development Act (Section 307 of PL 101-640, and codified in 33 United States Code, section 2316-2324) established an interim goal of no overall net loss for the nations' remaining wetlands, as defined by acreage and function, and a long-term goal of increasing the quality and quantity of the nation's wetlands. The act directed the Secretary of Interior to use all appropriate authorities, including those to restore and create wetlands, in meeting the goal.

As indicated in Section 7.8, "Vegetation", the Corps has committed to compensate for wetland and riparian vegetation impacts that would occur during construction of the flood control alternatives and has identified suitable areas for implementing mitigation. Therefore, the project will comply with the no net loss of wetlands goal of the act.

Executive Order 11988 – Flood Plain Management

Executive Order 11988 requires Federal agencies to recognize the significant values of flood plains and to consider the public benefits that would be realized from restoring and preserving flood plains. Under this order, the Corps is required to provide leadership and take action to accomplish the following objectives:

- Avoid development in the base flood plain, unless such development is the only practicable alternative
- Reduce the hazard and risk associated with floods
- Minimize the effect of floods on human safety, health, and welfare
- Restore and preserve the natural and beneficial values of the base flood plain
- The project would, in part, "restore and preserve the natural and beneficial values of the base flood plain," through the ecosystem restoration element of the project

The purpose of the ecosystem restoration element is to restore, to the extent possible, fish and habitat values adversely affected by previous activity associated with the Federal flood

control project. The project does not include development in the base flood plain with the exception of levee improvements. The primary objective of the project is to reduce the hazard and risk associated with flood, thereby minimizing flood-related effects on human safety, health, and welfare. Therefore, the project is considered to be in compliance with the executive order.

Executive Order 11990 – Protection of Wetlands

Executive Order 11990 directs Federal agencies, in carrying out their responsibilities, to provide leadership to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. This policy states that Federal agencies should avoid, to the extent possible, the short- and long-term adverse effects associated with destruction or modification of wetlands. It also states that agencies should avoid undertaking and providing support for new construction in wetlands, including draining, dredging, channelizing, filling, diking, impounding, and other related activities, unless the agency finds that no practicable alternatives exist and all practical measures have been taken to minimize harm to wetlands.

It has been determined that implementation of the Preferred Plan would have a significant adverse effect on 0.3 acres of seasonal wetlands on the landside of the Mormon Island Dam. There are no practicable alternatives to minimize harm due to construction in this wetland because it is located within the footprint of the dam. However, mitigation measure (V-4) has been identified to compensate for the loss of the area. Effects on wetlands are discussed in greater detail in Chapter 7.0, "Environmental Effects and Mitigation."

Executive Order 12898 – Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," requires each Federal agency to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations.

Changes to flood control facilities associated with the American River Watershed Project would be limited to the existing levee system along the Lower American River, Sacramento Bypass, and Yolo Bypass and Folsom Dam, wing dams, and dikes. The project may also include construction of a temporary road and bridge below Folsom Dam, and raising of the Guy West Bridge, Howe Avenue, and UPRR trestle. The Project would include increasing the size of the existing flood control facilities. None of these facilities are located in minority or low-income areas or communities. Similarly, construction of the temporary road below Folsom Dam would be across land that is currently vacant and not accessible to the public. Because the American River Watershed Project would not affect areas that are populated, developed, or proposed for residential development, the modifications would not disproportionately affect minority or low-income populations or communities.

Farmland Protection Policy Act

The FPPA requires Federal agencies to consider project alternatives that minimize or avoid adverse effects on prime and unique farmland. Federal agencies must coordinate with the U.S. Natural Resources Conservation Service (NRCS) to determine the extent of potential effects to farmland. This coordination is accomplished by conducting a Land Evaluation and Site Assessment (LESA) to determine the importance of farmland that may be affected by a proposed project. No farmlands will be affected by the implementation of the Preferred Plan; therefore, a LESA is not required and the Corps is in full compliance with the Farmland Protection Policy Act.

9.5.2 State Laws, Regulations, and Policies

California Environmental Quality Act

CEQA (Public Resource Code 21000 et seq.) is regarded as the foundation of environmental law and policy in California. The following are CEQA's primary objectives:

- Disclose to decision makers and the public the significant environmental effects of proposed activities
- Identify ways to avoid or reduce environmental damage
- Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures
- Disclose to the public reasons for agency approval of projects with significant environmental effects
- Foster interagency coordination in the review of projects
- Enhance public participation in the planning process

CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, including State, regional, county, and local agencies, unless an exemption applies. It requires that public agencies comply with both procedural and substantive requirements. Procedural requirements include the preparation of the appropriate environmental documents, mitigation measures, alternatives, mitigation monitoring, findings, statements of overriding considerations, public notices, scoping, responses to comments, legal enforcement procedures, citizen access to the courts, notice of preparation, agency consultation, and State Clearinghouse review.

CEQA's substantive provisions require agencies to address environmental impacts disclosed in an appropriate document. When avoiding or minimizing environmental damage is not feasible, CEQA requires agencies to prepare a written statement of overriding considerations

when they decide to approve a project that will cause one or more significant effects on the environment. CEQA establishes a series of action-forcing procedures to ensure that agencies accomplish the purposes of the law. In addition, under the direction of CEQA, the California Resources Agency has adopted regulations, known as the State CEQA Guidelines, which provide detailed procedures that agencies must follow to implement the law. Bureau will document compliance with the State CEQA Guidelines and to document CEQA compliance.

California Endangered Species Act

The framework for California endangered species protection is established by the CESA. CESA prohibits the "take" of plant and animal species designated by the California Fish and Game Commission as either endangered or threatened. Take includes hunting, pursuing, catching, capturing, killing, or attempting such activity. No special distinction is made in CESA between state-owned and private property.

The Corps has initiated the consultation process with DFG regarding project alternatives in order to ensure that any authorized actions are not likely to jeopardize the continued existence of any species listed under CESA as threatened or endangered or destroy or adversely modify "essential habitat" necessary to the continued existence of the species. As a trustee agency for the State's natural resources, DFG will review this document for actions that could affect the States resources and issue a Biological Opinion containing a written finding regarding project effects.

Based on its determination, the DFG written finding will be one of the following:

- The project as proposed is "not likely to jeopardize" any listed species;
- The project as proposed is "not likely to jeopardize" any listed species proved the conditions stipulated in DFG's biological opinion are fully implemented and adhered to;
- When new information available to DFG is insufficient to support a finding of "not likely to jeopardize," the conservative finding that the project as proposed "may jeopardize" is required;
- The project as proposed "is likely to jeopardize" one or more listed species.

CESA requires that when an action affects a species listed under both CESA and the Federal Endangered Species Act, and the project is subject to State lead agency and Federal agency action, DFG must request and participate in the Federal consultation to the greatest extent practicable. Wherever possible, DFG should adopt the Federal listed species, and other information relevant to DFG's assessment.

California Fish and Game Code (Section 1600 Lake or Streambed Alteration Agreement Program)

DFG regulates work that will substantially affect resources associated with rivers, streams, and lakes in California, pursuant to California Fish and Game Code Sections 1600-1607. Under Section 1601 of the California Fish and Game Code, any State or local governmental agency or public utility must notify DFG if it proposes to (1) divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by DFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, (2) use materials from the streambeds designated by DFG, or (3) dispose or deposit debris, waste, or other materials containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake designated by DFG.

Any person, governmental agency, or public utility proposing any activity that will divert or obstruct the natural flow or change the bed, channel, or bank of any river, stream, or lake or proposing to use any material from a streambed must first notify DFG of such proposed activity. This notification requirement applies to any work undertaken within the 100-year flood plain of a body of water or its tributaries, including intermittent streams and desert washes. In practice, however, the notification requirement generally applies to any work in the riparian corridor of a wash, stream, or lake that contains or once contained fish and wildlife or supports or once supported riparian vegetation.

9.5.3 Local Plans and Policies

The Corps has coordinated with the Counties of Sacramento, El Dorado, and Placer and other local jurisdictions during the environmental review process in order to determine whether project-related activities conflicted with specific general plan policies or ordinances.